

In the Specification

Please replace the paragraph on page 3, lines 1-7, with the following paragraph:

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A1 In a publication by NASA's Jet Propulsion Laboratory, a photodetector array circuitry is ~~describes~~ described that performs snapshot imaging and pixel averaging, see F B. Pain and X. Zheng, Active Pixel Sensor with Photosites in Substrates, NASA Tech Brief, vol. 23, no. 10, October 1999 (from JPL New Technology Report NPO-20534). This circuitry requires the host computer to send control signals to the sensor for the extraction of the signal from each superpixel, and like the other prior art system, do not provide imaging a scene through a multiple independently controllable, time-correlated, overlapping sensor windows.

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Please replace the paragraph on page 9, line 24, to page 10, line 5, with the following paragraph:

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A2 The reconfigurable photodetector array 23 is capable of changing the resolution of the array by automatically varying the number of individual pixels that constitute a single image resolving element, called a superpixel, having any number of individual pixels from a single pixel to all the pixels in the photodetector array. Said windows are areas of any size, shape, and frame rate within the boundaries of the photodetector array that contain a plurality of said superpixels all having the same resolution. The resolution of the image in each window is controlled by pixel averaging, or other pixel reduction techniques, to achieve the desired low to high resolution. Reconfiguration of imaging characteristics, such as integration time and frame rate, and the size, resolution, location, and overlap of windows in a frame, is are controlled in accordance with each window request command. The host computer can direct the resolution of one or more photodetector array windows to be increased or decreased in multiple steps, and each window maintains a consistent resolution regardless of the resolution of overlapping foreground or background windows.

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Please replace the paragraph on page 11, line 23, to page 12, line 15, with the following paragraph:

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A3 The software architecture of system 8 for providing dynamically reconfigurable vision is shown in FIG. 6. First, a Detection and Tracking Application (DTA) 35 generates a request for an initial video surveillance window that covers the entire photodetector field-of-view but possesses a low resolution. The DTA 35 passes this request to the window request command generator 36. Here, the request is packaged into a window request command 37 and sent to the video server 11. First, the window request command must pass through a software driver 38, which controls digital message transmission via the digital command data link 12. At the other end of the data link, another software driver 39 receives the transmitted window request command and passes it onto a window request command interpreter 40. This software module 40 takes apart the window request command message and handles communication via a serial command interface 41 with reconfigurable photodetector array's control firmware 42. Within the firmware control module 42, the window request command is translated into a sequence of digital control vectors and signals 43 that are used to manage the circuitry on the reconfigurable photodetector 23, the video digitization process, and the movement of digital video 44 through the video camera 29. The digital video 44 is next transferred to a video packaging node 45 where it is bundled into a software data structure and transferred to an output driver 46 that handles transmission via the video data link 13. At the opposite end of this data link, another software driver 47 receives the digital video and passes it across a bus 48 to the DTA 35. In the DTA video processing algorithms perform all or some of target detection, tracking, cueing, identification, recognition, and classification. Based upon the digital video content, the DTA 35 makes a determination as to what spatial, temporal, and spectral parameters the next video windows should possess. This information is then passed on to the window request command generator 36, and the cycle begins again. The DTA 35 may also possess the ability to display the digital video and create a graphical user interface for interaction with a human operator.

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